

## REMARKS

### I. Acknowledgement of Examiner's Finding of Allowable Subject Matter

The Applicants gratefully acknowledge the Examiner's initial determination of allowable subject matter (i.e., Claims 5 – 18) in the present application.

### II. Summary of Amendments

Claim 1 has been amended to more fully claim the nature of the three-dimensional rotational movements of the eye that can be measured with the present invention.

### II. Arguments for Claim 1 Allowance:

Favorable reconsideration of this application's Claim 1 in light of the following discussion, is respectfully requested – wherein it should be noted that the Examiner's agreement with any one of the following arguments is sufficient reason for the Examiner to retract his earlier rejections of these claims.

#### A. “ ... **three-dimensional, rotational movements of an eye ...**”

It would be improper and erroneous for the Examiner to again assert that the above cited element of the now amended Claim 1 is disclosed in Bees (USPN 7,234,815). From examining Bees, it can be seen that Bees does not disclose “a device (1) for measuring the three-dimensional, rotational movements of an eye (see application's FIG. 1),” since nowhere in Bees is the word/s “rotation or rotational” even used.

However, this should not be surprising since Bees discloses only “a filter that can be installed in a surgical microscope (note: the patent is assigned to Leica Microsystems – a leading manufacturer of microscopes) and used to reduce the intensity of the light being transmitted to a specific region of a patient's eye,” and in describing or disclosing such a device there generally would be no need for one to include a mention or discussion of a patient's rotational eye movements.

**B. “a means for marking an array of positions on said eye whose rotational movements are to be measured (e.g., an array of three 1mm x 1 mm markers on a piece of plastic film that is affixed to the cornea or sclera of the eye)”**

It would be improper and erroneous for the Examiner to again assert that the above cited element of the now amended Claim 1 is disclosed in Bees (USPN 7,234,815). The Examiner had previously asserted in his first Office Action that the above cited element of Claim 1 could be found in Bees at col. 4, lines 20-67. However, this is clearly erroneous since such words as “mark or marking,” “array,” “eye positions,” or “movement” are nowhere to be found in the cited col. 4, lines 20-67 portions of Bees.

This should not be surprising since Bees is only concerned with utilizing a filter to reduce the intensity of the light being transmitted to a specific two-dimensional region (x, y) of a patient’s eye. Thus, since Bees is not concerned with three-dimensional rotational eye movements there is no need for Bees to in some way mark various positions on an eye and to track and calculate how these marked positions are moving as a result of the eye’s rotational movements.

**C. “a means for capturing the two-dimensional, digital images of said array of eye-marked positions as said eye is moved (e.g., a digital video camera with a modified lens - an IEEE 1394 Firewire webcam (PYRO1394 WebCam, ADS Technologies, USA) retrofitted with ¼” format 16.0 mm focal length, f/2.0 C-mount board lens (BL160, Allthings Inc., Australia) and which can be used to acquire 640 x 480 pixel B&W (8-bit) images at 30 Hz)”**

It would be improper and erroneous for the Examiner to again assert that the above cited element of the now amended Claim 1 is disclosed in Bees (USPN 7,234,815). The Examiner had previously asserted in his first Office Action that the above cited element of Claim 1 could be found in Bees at col. 4, lines 20-67. However, this is clearly erroneous since such words as “camera,” “digital,” “images,” “array,” or “mark/marked” are nowhere to be found in the cited col. 4, lines 20-67 portions of Bees.

This should not be surprising since Bees is only concerned with utilizing a filter to reduce the intensity of the light being transmitted to a specific two-dimensional region (x, y) of a patient’s eye. Thus, since Bees is not concerned with three-dimensional rotational eye movements there is no need for Bees to in some way mark various positions on an eye and to

photograph or capture video images of how these marked positions are moving as a result of the eye's rotational movements.

**D. "a means for aligning said optical axis of said image capturing means with the center of said eye"**

It would be improper and erroneous for the Examiner to again assert that the above cited element of the now amended Claim 1 is disclosed in Bees (USPN 7,234,815). The Examiner had previously asserted in his first Office Action that the above cited element of Claim 1 could be found in Bees at col. 4, lines 20-67. However, this is clearly erroneous since such words as "camera," "align or alignment," "axis," "center" or "eye center" are nowhere to be found in the cited col. 4, lines 20-67 portions of Bees.

This should not be surprising since Bees is only concerned with utilizing a filter to reduce the intensity of the light being transmitted to a specific two-dimensional region (x, y) of a patient's eye and never mentions a video camera in his col. 4, lines 20-67 disclosure. Thus, if Bees doesn't disclose a video camera, he certainly doesn't disclose how to align it with the center of the eye whose rotational movements are to be recorded.

**E. "a means for computing the three-dimensional rotational movements of said array of eye-marked positions from the information contained in said captured digital images"**

It would be improper and erroneous for the Examiner to again assert that the above cited element of the now amended Claim 1 would have been obvious in view of Bees' disclosure that his filter can be "three-dimensional displaced (presumably by some sort of undisclosed mechanical system)" and that this system's operation can be "controlled and monitored by a controller 25 (col. 5, lines 33-35)." The Examiner had previously made this assertion in his first Office Action.

The applicants' readily acknowledge that there are all sorts of three-dimensional positional and alignment devices in the marketplace (as are apparently being suggested by Bees), such as can be found, for example, on many lathes or other piece of machine shop equipment. However, the existence of such hardware gives one absolutely no insight or suggestion as to how to address the mathematical problem of how to convert the information captured by the video camera of the present invention into rotational eye movements.

Furthermore, as has been previously mentioned, no where in Bees do there appear the words (e.g., “mark or marking,” “array,” “eye positions,” “movement,” “camera,” “digital,” “images,” “align or alignment,” “axis,” “center” or “eye center”) that would enable Bees to even begin to address – much less disclose – the Claim 1 element cited above.

**Dependent Claims 2-4 and 19-20:**

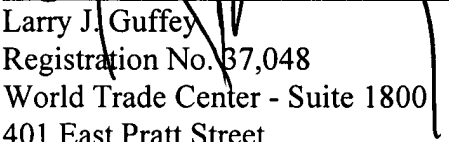
Applicants argue that the Examiner’s previous claim rejections as being obvious in view of USPN 7,234,815 are in error because dependent claims 2 - 4 and 19 - 20 are seen to depend, respectively, from what can now be seen to be the application’s allowable independent claim 1.

## REQUEST FOR RECONSIDERATION

In view of the above, it is submitted that the applicant's claims are in condition for allowance. Reconsideration and allowance of claims 1-20 are requested.

Alternatively, with few amendments, it is submitted that claims 1-20 could easily be placed in a condition for allowance. The Applicant hereby requests that the Examiner establish informal communications with the Applicants' Attorney for the purposes of determining what form such amendments might take.

Respectfully submitted,

  
Larry J. Guffey  
Registration No. 37,048  
World Trade Center - Suite 1800  
401 East Pratt Street  
Baltimore, MD 21202  
(410) 659-9550  
ATTORNEY FOR APPLICANTS

  
Date

### CERTIFICATE OF MAILING

I hereby certify that this correspondence, and attachments, if any, will be deposited with United States Postal Service, First Class Mail, postage prepaid, on the date indicated above and will be addressed to the Commissioner for Patents, U.S. Patent & Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450.

Signature: 

DATE OF DEPOSIT: 